NOTE V.

ZOOLOGICAL RESULTS OF THE DUTCH SCIENTIFIC EXPEDITION TO CENTRAL BORNEO.

NEW SPECIES OF THE MELOLONTHID GENUS APOGONIA

BY

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Apogonia Goedhuisi, n. sp.

A large and robust species which is closely allied to *A. viridipennis* Gestro from Sarawak, of which I have the type before me, but still larger, measuring 16 mm. in length instead of 13 mm.; moreover the elytra are not green but black with a faint purplish hue, and the clypeus is longer and only inconspicuously emarginate in front, the sides of the prothorax are less angularly rounded when viewed laterally, and the first and second elytral costae are not bordered (on both sides) with a narrow slightly impressed stripe, which stripes, in *viridipennis*, make the impression of being pairs of very fine lines.

Glabrous, glossy black, the elytra with a faint purplish hue, the palpi and antennae ferruginous.

The clypeus is broad, inconspicuously emarginate in front, very broadly rounded laterally, obsoletely punctured, and separated from the face by a rather indistinct suture; the face rather densely covered with fine but distinct punctures.

The prothorax strongly transverse, but little broader at the base than in front, broadest about the middle; the sides strongly and regularly rounded when viewed from above, strongly rounded about the middle when viewed laterally; the anterior angles are acute and slightly prominent, the posterior ones very obtuse; the base is rounded, slightly projecting in the middle; the punctures on the pronotum are fine, and somewhat more densely set on the disk than on the sides. The scutellum is broadly triangular with slightly sinuate sides, smooth, with a few very fine punctures.

The punctures on the elytra are larger but less densely set than those on the pronotum; the first costa is broad and provided with two irregular rows of finer punctures; the second costa is narrower and provided with only one row of fine punctures; the third costa agrees in every respect with the three external interspaces which are of equal width and provided with a row of fine punctures; on the first of these three interspaces the punctures are, however, somewhat closer together and larger.

The punctures on the under surface are rather wide apart and larger on the sides than in the middle; on the propygidium they are smaller and closer together, but on the pygidium they are large and widely separated in the middle.

The legs are slender, the anterior tibiae linear and obtusely bidentate.

Hab. Borneo: Sintang. — A single specimen, captured in August or September 1894 by Dr. Goedhuis, to whom I have dedicated this conspicuous species.

Apogonia abdominalis, n. sp.

A highly polished species of moderate size (10—11 mm.) which is easily recognizable by the two impressions on the elytra behind the shoulders and by its coloration, this being black [1]) with the abdomen red (black in the middle of the base); the femora are tinted with red, the antennae and palpi ferruginous, the tarsi pitchy brown.

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[1]) When the insect was kept in spirits, its upper surface showed a metallic green and coppery lustre. This is probably also the colour of the insect when alive.

Oblongo-ovate, glabrous and highly polished above; beneath and on the legs the punctures bear short, pale coloured setae which are scale-like and densely set on the sides of the metasternum.

The clypeus is broad, strongly and densely punctured, truncated in front with broadly rounded lateral angles and separated from the face by a distinct suture. The punctures on the face are smaller and wider apart than those on the clypeus and they become still smaller and more distant towards the vertex.

The prothorax is strongly transverse, obliquely narrowed in front and broadest at two thirds of its length; the punctures are scattered and rather obsolete on the disk, much more distinct, and closer set, at the sides; the anterior angles are acute and slightly projecting; the sharply margined sides (viewed laterally) are almost angularly rounded behind the middle, the posterior angles are very obtuse. The scutellum is broadly triangular with nearly straight sides, almost impunctate, only a few exceedingly fine punctures being present.

The punctures on the elytra are sparse and fine; there are three not very distinct costae which bear a few very fine punctures; the first costa is broad but becomes narrower anteriorly and posteriorly; on the middle of the elytra its width agrees with that of the following interspace; the second costa is narrow and, as usual, somewhat triangularly enlarged at the base; the third costa is still a little narrower; along the sides are three rows of punctures: the outermost is marginal and the innermost joins the third costa just behind the shoulder; the interspaces between the third costa and the margin are about of equal width and show a few very fine punctures. Behind the shoulders two impressions may be observed: the first is the largest, touches the shoulder and makes the shoulder more prominent; the second is smaller but better defined and is situated on the outer boundery line of the third costa.

The sides of the metasternum are very closely punctured, the punctuation on the abdomen is strong but not dense and agrees with that of the propygidium; on the pygidium, which in two of my three specimens is impressed along the middle, the punctuation is somewhat finer.

The anterior tibiae are tridentate.

Hab. Borneo: Mt. Liang Gagang. — Three specimens, captured in March 1894 by Dr. Hallier.

Apogonia pygidialis, n. sp.

This species has a flat or slightly convex pygidium which is either impunctate or provided with a few very fine hair-bearing punctures.

Its length varies from 8 to 9 mm. and its colour passes from pale ferruginous brown (immature specimens) to pitchy black; the under surface, pygidium and femora (especially the latter) remain however of a brighter colour; the palpi and antennae are yellowish ferruginous.

The clypeus is broad, and rather coarsely punctured; it is broadly but not deeply emarginate in front with the lateral angles of the emargination rounded, the sides are strongly converging in straight lines. On the face, which is separated from the clypeus by a suture, the punctuation is somewhat finer and more widely spread.

The prothorax is obliquely narrowed in front and broadest behind the middle; the anterior angles are distinctly prominent and somewhat flattened or depressed, the posterior ones are broadly rounded, almost without perceptible angle; the punctures on the pronotum are rather fine, not densely set, and equally spread over the whole surface; no basal impressions in front of the lateral angles of the scutellum. The scutellum is broadly triangular with curvilinear sides, smooth, provided with a few fine punctures.

The elytra have the punctures stronger than those on the pronotum and a trifle closer together; the first costa is broader than the second and slightly convex, the third not distinct as the punctures on the outer part of the elytra are in lines and the interspaces between these lines, as well as the third costa, bear a regular row of finer punctures; a similar row is present on the second costa which is dilated at its base, while there are two irregular rows on the first costa.

The punctures on the under surface and legs are hair-bearing; on the sides of the abdomen and on the pygidium they are finer than those on the elytra. The pygidium is flat or slightly convex, and either impunctate or with a few very fine hair-bearing punctures.

The anterior tibiae are tridentate, the upper tooth is small.

Hab. Borneo: Smitau (January 1894, Dr. Büttikofer), one specimen; Nanga Raoen (March 1894, Dr. Büttikofer), one specimen; and moreover specimens from Sintang (Severin), Sambas (Dr. Bosscha) and the South Eastern District of Borneo (van Nouhuys).

From the same localities, and moreover from Nanga Pinoeh [1]), I have specimens which perfectly agree with those of *A. pygidialis* except in the sculpture of the pygidium, this being strongly though not very densely punctured. Not being sure of their identity I have named these specimens *A. incerta*.

Apogonia Waterhousei, n. sp.

Allied to *A. fulgida* Sharp from Sumatra, of which I have the type-specimens before me, but easily distinguished from that species by the smaller head, by the shape of the clypeus the lateral margins being convergent in straight lines, whereas in *fulgida* they are strongly rounded which makes the clypeus longer in front of the

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1) The two specimens from Nanga Pinoeh have been presented to the Leyden Museum by Mr. W. Albarda.

eyes; moreover the thorax is longer in the new species and, when viewed laterally, the sides are strongly rounded just behind the middle, not at two-thirds of its length as in *fulgida.*

Length 9—10 mm. — Glabrous, black, the upper surface with a dark green and coppery hue, the palpi and antennae ferruginous red.

The clypeus obliquely narrowed in straight lines laterally, slightly emarginate in front, the lateral angles of the emargination rounded, coarsely and rather densely punctured and separated from the face by a suture; the face is remotely covered with fine but deeply impressed punctures, not angularly separated from the vertex.

The prothorax is transverse, obliquely narrowed from the middle to the front margin, much broader at the base than in front, broadest in the middle when viewed from above, the sides strongly rounded just behind the middle when viewed laterally; the anterior angles acute but not projecting, the posterior ones very obtuse. The surface remotely punctured, the punctures fine but distinct, not larger nor closer together on the sides. The scutellum with a few extremely fine punctures and of a regular triangular shape, the sides nearly straight.

The elytra are not closely punctured, about in the same way as the pronotum but the punctures are larger; the first costa is broad, almost as broad as the following interspace, and provided with two irregular rows of punctures; the second costa is less distinct, provided with one row of punctures and slightly narrower than the interspace between it and the third costa; the latter bears likewise a series of punctures and is as broad as each of the following (three) interspaces which bear but very few punctures, and the innermost of which is distinctly raised on the middle of its length.

The sides of the under surface are rather closely punctured; the punctures on the propygidium are finer, those on the pygidium larger and more distant; the opaque impunctate portion of the abdomen which is covered by the elytra, is, on the sides, sharply separated from the lower portion by a slightly raised line.

The anterior tibiae are obtusely bidentate.

Hab. Borneo: Mt. Liang Gagang (March 1894, Dr. Hallier), one specimen; Smitau (July 1894, van Velthuysen), two specimens, one of which is immature.

I have named this species in honour of Mr. Chas. O. Waterhouse, who has given excellent descriptions not only of several new *Apogonia*-species, but also of the types of Fabricius' and of Hope's which are preserved in the British Museum.

Apogonia Büttikoferi, n. sp.

This species belongs to the non-metallic group of *Apogonia sphaerica* Burm., *heptagona* Lansb., *Leeuweni* Brenske and *Ritsemae* Sharp, which group is characterized by the conformation of the abdomen, this being provided along the sides with a sharply raised line, separating the lower portion of the abdomen from that what is covered by the elytra; moreover in this group the face is angularly separated from the vertex, thus strongly contrasting, not rounded, and the anterior tibiae are bidentate.

The new species is smaller and, especially across the thorax, broader than *Leeuweni* with which it is closely allied; moreover the punctuation is more densely set, and stronger on the elytra, and the sutural interstice is narrower.

Length about 7 mm. — Glabrous, of a pitchy black colour (in mature specimens) with dark red femora and pale ferruginous palpi and antennae; the teeth of the anterior tibiae and the tarsi are pitchy brown.

The clypeus is obliquely narrowed and broadly emarginate in front with the angles of the emargination rounded; the punctuation on its surface is denser but not stronger than that on the face; the face is angularly separated from the vertex.

The prothorax is strongly transverse, obliquely narrowed in front and subparallel at the base when viewed from above, broadest just behind the middle; the anterior angles are acute but not prominent, the posterior ones very obtuse; the punctures on the pronotum are fine and rather densely set, equally spread over the whole surface. The scutellum is of a regular triangular shape, and finely and sparsely punctured.

The elytra are more strongly punctured than the pronotum, the punctures still larger towards the sides; the lines of punctures on each side of the costae (which *inter alia* are not very distinct) are only a trifle larger than the other punctures but they are closer together; the first costa is broader than the second and provided with finer punctures which are arranged in three irregular rows; the second and third costae have only one row of similar punctures; outward from the third costa there are three rows of punctures similar to those that border the costa, and their interstices, which are as broad as the costa itself, show likewise a row of finer punctures, thus giving a very regular aspect to the punctuation on the lateral portion of the elytra.

The abdomen is provided along the sides with a sharply raised line; the punctuation on the sides is strong but not dense and hair-bearing, agreeing with that on the pygidium; on the propygidium the punctuation is strong and more or less confluent.

The anterior tibiae are bidentate.

Hab. Borneo: Nanga Raoen (March 1894, Dr. Büttikofer), Mt. Liang Gagang (March 1894, Dr. Hallier) and Poelau on the Sibau River (June 1894, Dr. Büttikofer), one specimen from each of these localities. — Moreover I have specimens from Sambas (Dr. Bosscha), from Sintang (Severin) and from the South Eastern District of Borneo (Bates).

Leyden Museum, April 1896.